

**IN THE DRAWINGS**

Please replace Figure 1 with the attached substituted drawings.

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**REMARKS**

Claims 1-20 are pending in the above application. Claims 1-5 and 7-18 were rejected under 35 USC 102(b) as being anticipated by Shahar (US 5,905,264). Claim 6 was rejected under 35 USC 103(a) as being unpatentable over Shahar in view of Lee (US 5,563,421). And Claims 19 and 20 were rejected under 35 USC 103(a) as being unpatentable over Shahar.

**Claims Rejected Under 35 USC 102(b)**

Claims 1-5 and 7-18 were rejected under 35 USC 102(b) as being anticipated by Shahar (US 5,905,264). The Applicant respectfully traverses this rejection and requests reconsideration of the Examiner. Respectfully, the Shahar reference fails to teach the use of a guard ring having a ring outer surface substantially planar with the detector side surfaces (claims 1 and 17 as amended) or coplanar with the pixel side edges (claim 11). These limitations are claimed by the present invention and are not taught or indicated within the Shahan reference. The present invention utilizes this substantially coplanar structural limitation both as an improvement in shielding as well as a unique combination of reduced profile for assembly and improved shielding characteristics.

Not only does the Shahar reference fail to teach this limitation, it actually teaches away from the present invention. Column 5, lines 31-45 of the Shahar reference in combination with Figures 3a and 3B clearly teach an electrode 212 separated considerably from the sidewall 210 (at a minimum by the width of the insulating layer 208). Even if this is read as the equivalent of the guard ring in the present invention, the outer surface of the electrode 212 is not substantially coplanar with either detector side surfaces or the pixel side edge surfaces. Even the language of Shahar teaches away: " The space charge at the boundary between the insulating layer 208 and the side wall 210 produces an electric field that repels electrons and thus bends their trajectories 228.....Shifting the trajectories of the charge carriers away from the region close to the sidewall 210 tends to remove them from a problematic region...". This teaches a separation between sidewall and ring and claims a benefit from such separation. This teaches away from the present invention.

The Applicant, therefore, respectfully requests reconsideration in light of the aforementioned arguments and attached amendments.

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**Claims Rejected Under 35 USC 103(a)**

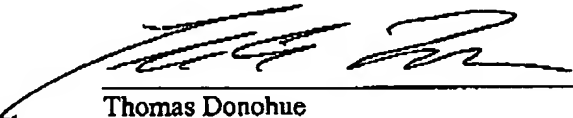
Claims 6, 19 and 20 were rejected under 35 USC 103(a) and being unpatentable. The Examiner asserts that optimizing performance by adjusting guard ring position and height would have been obvious to one skilled in the art. The Applicant respectfully traverse this rejection and requests reconsideration in light of the amendments to the underlying independent claims involving the untaught coplanar limitations. In addition, the coplanar outer surface orientation of the present claimed invention allows for an improved fine tuning of performance as claimed that was not obvious in light of the cited art. It is the combination of coplanar and ability to optimize height and/or position that provides unique benefits. The remote/non-planar nature of prior designs did not reap the fine tuning benefits present in the claimed planar arrangement. The Applicant, therefore, respectfully requests reconsideration.

**CONCLUSION**

The Applicant would like to thank the Examiner for his assistance. In light of the above amendments and remarks, Applicant submits that all objections and rejections are now overcome. Applicant has added no new material to the application by these amendments. The application is now in condition for allowance and expeditious notice thereof is earnestly solicited.

Should the Examiner have any questions or comments that would place the application in better condition for allowance, the Examiner is respectfully requested to call the undersigned attorney.

Respectfully submitted,



Thomas Donohue  
Reg. No. 44,660  
Artz & Artz, P.C.  
28333 Telegraph Road, Suite 250  
Southfield, MI 48034  
(248) 223-9500  
(248) 223-9522 (Fax)

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